

WHAT IS CLAIMED IS:

1. An SLM (spatial light modulator) -based  
projection display system, comprising:

an articulating unit having at least the optical  
5 path components of the display system and the SLM, the  
optical components comprising at least an illumination  
system and a projection lens, the rotating unit moveable  
from a stow position to an operating position, such when  
the rotating unit is moved to the operating position, the  
10 image formed by the SLM is re-oriented to a position  
suitable for viewing;

a platform unit operable to rest on a flat surface  
when the projection display system is in use,

at least one mechanism for attaching the rotating  
15 unit to the platform unit, such that the rotating unit  
and the platform unit may form an angle relative to each  
other when the rotating unit is deployed and may lie in  
parallel planes in the stow position; and

a locking mechanism for holding the rotating unit in  
20 place when the rotating unit is in the operating  
position.

2. The system of Claim 1, wherein the articulating  
unit contains all operating components of the display  
25 system.

3. The system of Claim 1, wherein the platform unit  
contains at least a power supply.

4. The system of Claim 1, wherein the locking mechanism is a self locking mechanism associated with the mechanism.

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5. The system of Claim 1, wherein the optical path components further comprise telecentric prism optics.

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6. The system of Claim 1, wherein the articulating unit further contains a power supply.

7. The system of Claim 1, wherein the system is housed in a housing no more than two inches in height.

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8. The system of Claim 1, wherein the system is housed in a housing less than ten inches on each side.

9. The system of Claim 1, wherein the SLM is a digital micro mirror device (DMD).

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10. The system of Claim 1, wherein the SLM is a reflective liquid crystal display (LCD) array.

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11. The system of Claim 1, wherein the angle of the rotating unit is determined at least in part by the illumination requirements of the SLM.

12. The system of Claim 1, wherein the angle of the rotating unit is determined at least in part by a tilt position of the SLM.

5 13. An SLM (spatial light modulator) -based projection display system, comprising:

10 a repositionable optical unit containing at least the SLM, projection optics, and a projection lens, the optical unit moveable from a stow position to an operating position at an angle relative to the stow position, the operating position being such that the image formed by the SLM is re-oriented to a position suitable for viewing; and

15 a platform unit operable to rest on a flat surface when the projection display system is in use, the platform unit containing all other operating components of the display system, comprising at least an illumination source, a power supply, and a color wheel.

20 14. The system of Claim 13, wherein the optical unit is both translated and rotated from the stow position to the operating position.

25 15. The system of Claim 13, wherein the optical unit is translated at an angle from the stow position to the operating position.

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16. The system of Claim 13, wherein the optical path components further comprise telecentric prism optics.

5 17. The system of Claim 13, wherein the system is housed in a housing no more than two inches in height.

18. The system of Claim 13, wherein the system is housed in a housing no more than ten inches on each side.

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19. An SLM (spatial light modulator) -based  
projection display system, comprising:

a platform unit operable to rest on a flat surface  
when the projection display system is in use, the  
5 platform unit containing all operating components of the  
display system, namely, at least the SLM, a power supply,  
an illumination source, and electronics associated with  
the SLM; and

a fold mirror in the optical path between the  
10 illumination source and the SLM, the fold mirror operable  
to pop out from the platform unit when the display system  
is in use, such that the fold mirror redirects light from  
the illumination source to an optical path leading to the  
SLM.

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20. The system of Claim 19, wherein the system is  
housed in a housing no more than two inches in height.